Hazardous Materials Management Program



HSMS

Hazardous
Substance
Management
System

FACT BOOK

PURPOSE

The US Army Environmental Center (AEC)
Hazardous Substance Management System (HSMS)
Fact Book is designed to provide the user with an overview of the HSMS Program and beneficial reference information. This publication is intended to be used for general information purposes only and is not to be considered a source for official communications.

We hope you will find it useful.

TABLE OF CONTENTS

HSMS Program Purpose	1
Benefits of HSMS Program	2
History	3
Policy/Guidance - Logistics	4
Policy/Guidance - Environmental	5
The Army HSMS Program	6
Business Practice Initiatives	7
Recommended Business	
Practices (BP)	8
HSMS Software	19
HSMS Automation Architecture	20
HSMS Hardware Requirements	2
HSMS Software Material	
Cycle Module	22
HSMS Sites	
HSMS Installations (CONUS)	28

HSMS Installations (OCONUS)AEC Support Process	30
HSMS Roles and Responsibilities	32
Implementation Approach	
Implementation Process	
Implementation Process (Chart)	35
Critical Success Factors	36
Support Mechanisms (SM)	37
Program Documents	42
HSMS Training	
Post Deployment System	
Support (PDSS)	44
Success Stories	16
Fort Campbell Pollution Prevention	
Operation Center	

HSMS Program Purpose

To provide installations with support to better manage
Hazardous Materials (HM) and Hazardous Waste (HW)
through centralized management using Business Practices
and an Automated Tool (HSMS Software).

BENEFITS OF HSMS PROGRAM

- Reduces Inventory Levels as well as Storage and Handling Requirements
- Reduces Procurement Costs
- Avoids/Reduces Disposal Costs through
 - Reduced Ordering
 - Material Re-use
 - Improved Shelf Life Management
- Improves and Streamlines Waste Tracking
- Improves Personnel Health and Safety; Safeguards Troops and Installation Personnel
- Assists in Regulatory Compliance Efforts
- Enhances Readiness
- ☐ Ensures better Environmental Compliance and Stewardship



HISTORY

- 1996 Army Begins Fielding HSMS 2.1
- Sep 1997 HSMS 2.2 Released
- Jan 1999 HSMS 2.2 SP3B Released
- Feb 2000 DESCIM Issues New Contract for HSMS 2.3 Development
- Aug 2000 Army Conducted a Software Qualification Test
- Sep 2000 Joint Service Software Assessment
- Jan 2001 Army Software Acceptance Assessment
- Feb 2001 Army Begins Fielding HSMS 2.3
- Apr 2001 HSMS 2.3 SP1 Released with Remote Barcoding Capability
- Aug 2001 HSMS 2.3 SP2 Released
- 4th QTR FY01 HSMS 2.4 Army Software Acceptance Assessment
- 1st QTR FY02 HSMS 2.4 Released
- 3rd QTR FY02 HSMS 2.4.1
- FY04 Additional Fielding to the Army

Policy/Guidance

- ☐ AR 710-2, Section VII, Chapter 1-28a:
 - "Army managers will <u>control hazardous materials</u> to minimize hazards to public health and damage to the environment. Army policy with regard to hazardous materials management is to <u>establish and maintain a proactive program</u> and to implement procedures to preclude or <u>reduce the use of</u>, and the <u>level of</u> <u>toxicity</u> in, hazardous materials used."
- ☐ 11 July 1997 Memorandum
 - "Installation HM Management Program Implementation"



Policy/Guidance

- AR 200-1, Chapter 4-3k
 - "... implement a program to track hazardous materials and hazardous waste from "cradle-to-grave" (i.e., Hazardous Substance Management System (HSMS))"
- П 2 Feb 1996 Memorandum
 - "HSMS is the only Army Authorized Tracking System"







The Army **HSMS** Program is composed of two integrated components:

Business Practices and **HSMS Software**

Business Practice Initiatives

Business Practices are one component of the HSMS Program.

The program recommends a foundation of eight different business practices when establishing the HSMS Program at an installation.

RECOMMENDED BUSINESS PRACTICES (BP) INCLUDE:

- **BP1.** Establish Centralized Issue/Storage of Hazardous Materials
- **BP2.** Implement a Tracking System (HSMS)
- **BP3.** Establish Centralized HM Management Cell
- **BP4.** Establish Inventory Levels at User/Operator Level
- **BP5.** Establish Reuse Procedures
- **BP6.** Establish Authorized User/Use List (AUL)
- **BP7.** Order/Dispense by "Unit of Use" vs. "Unit of Issue"
- **BP8.** Implement an HM Training/Awareness Program



RIISHIESS PRICTIFE 1

Centralized Issue and Storage of Hazardous

Material involves establishing a supply point on the installation through which all hazardous material is processed. This supply point is commonly referred to as the **HAZMART**, or Hazardous Material Pharmacy. The Army calls these supply points **Hazardous Material Control Centers (HMCC)**.

The HMCC's primary functions are to:

- Receive, store, and issue hazardous material;
- Conduct inventories as directed by the accountable officer;
- Perform stock rotation;
- Manage the Re-Use Center;
- Input transactions into the automated logistics system;
- Ensure that hazardous material products received are accompanied by the correct Material Safety Data Sheet (MSDS); and
- Provide an MSDS to the user.

A Hazardous Material Tracking System is

BUSINESS PRACTICE 2 required for the accurate management of hazardous material from procurement through disposal. This is from the time an order is placed for a product that contains hazardous substances until the time it is ultimately used or disposed of. To accomplish these functions, the Army has selected the Hazardous Substance Management System (HSMS). HSMS is the Department of Defense (DoD) standard hazardous material (HM) and hazardous waste (HW) tracking system.

HSMS software:

- Maintains information on material chemical constituents;
- Maintains the HM Authorized User/Use List (AUL);
- Maintains information on processes that use HM or generate HW;
- Tracks authorized use of HM by processes;
- Calculates chemical release information for all processes for use in EPCRA Toxic Release Inventory Reports;
- Tracks hazardous material ordered, received, stored, issued, used and recycled;
- Tracks hazardous waste disposal; and
- Prints hazardous waste manifests and turn-in forms.

BIISINESS PRACTICE 3 Centralize

Centralized Hazardous Material Management

provides installation-level visibility and management of all hazardous material being used or stored on an installation. A multidisciplinary working group chaired by the facility commander and composed of directorate chiefs or equivalents, develops the policy and guidance for the hazardous material management program at the installation. The group typically includes logistics, environmental, contract management, safety, medical (e.g., industrial hygiene), emergency response (e.g., fire department), resource management, and tenant activity personnel.

Establish Inventory Levels at User/Operator

Level. The Army authorizes unit inventory levels to be maintained to support the mission. These inventory levels are authorized by Army regulation. One of the objectives of this business practice initiative is to examine the types and quantities of products maintained and reduce stock levels to quantities necessary to support short-term operations (e.g., 7 days, 14 days). A second objective is to remove those stocks that do not support the installation mission and reduce overall stockage levels. The third objective is to introduce, or substitute, more environmentally safe products that lessen the impact on the environment while protecting the safety of workers.

RIISINESS PRACTICE 5 Establish Reuse Procedures. Typically, varying amounts of hazardous material are stored throughout an installation without visibility and control. In most instances, normal supply procedures do not permit the turn-in of partially used or unopened products. This contributes to excess products accumulating on-site that may require disposal as hazardous waste. The solution is to establish a process to *Re-use* hazardous material. This business practice has resulted in the reduction of hazardous waste and disposal costs, reduced hazardous material procure-

ment cost, and improved shelf-life management.

RIISINESS PRINCIPLE 6 The Au

The **Authorized User/Use List (AUL)** identifies authorized users who have a justified need to order, receive, and use hazardous material. The AUL also documents those hazardous material stock numbers approved for use on the installation. This function provides a screening mechanism for product substitutions, and provides safety and health information related to HM. Although AULs are associated with levels of inventory a user is authorized to maintain, the AUL should not be confused with inventory levels.

BUSINESS PRACTICE 1 Ordering and Issuing by Unit of Use is the ordering or issuing of the exact quantity of a product required to accomplish a process. In many instances, the unit of issue associated with a standard product available through normal supply channels is procured because it is cheaper. For example, a single can of spray paint may be all that is required to perform a specific job. However, the unit of issue for this product is a case that contains 12 cans. Consequently, the possibility of the remaining

11 cans becoming excess or HW is increased.

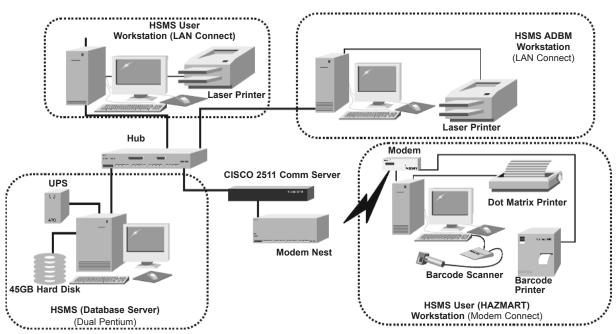
BUSINESS PRICTICE 8 A standardized, comprehensive *Hazardous Material* Training and Awareness Program should be established and encouaged at all management levels. The purpose of a training and awareness program is to meet all legal requirements and increase hazardous material and hazardous waste awareness relative to safety and environmental concerns. All employees must understand their contribution to an effective hazardous material management program and have a working knowledge of the other components in the installation's hazardous material management program. The goal is to ensure personnel understood the implications of their decisions and actions in the management, use and disposal of hazardous material.

HSMS Software Is:

An Automated Tool to Enable Centralized Management of HM/HW

- ☐ Tracks HM/HW from "Cradle-to-Grave"
- ☐ Ties HM to HW through Defined Processes
- Provides Visibility of HM Inventories
- ☐ Supports Pollution Prevention (P2) Initiatives
- Enhances Regulatory Compliance (e.g., OSHA, EPCRA CAA, FIFRA)
- Generates Environmental Reports

HSMS Automation Architecture



DOCUMENTED IN SYSTEM TECHNICAL ARCHITECTURE GUIDE (STAG)

HSMS Hardware Requirements

Minimum Requirements for HSMS 2.4

CPU: 350 Mhz RAM: 128 MB Hard Drive: 5 GB

Video: 1 MB SGRAM

video card

Monitor: 13"

Network: 10/100 Network

Interface Card

Modem: 56K (if not on a LAN)

CD: 12x

OS: Windows NT 4.0;

2000, 98

Recommended Requirements for HSMS 2.4

CPU: 1 Ghz RAM: 512 MB Hard Drive: 30 GB

Video: 4 MB SGRAM

video card

Monitor: 17"

Network: 10/100 Network

Interface Card

PCM/CIA: DoD requirement

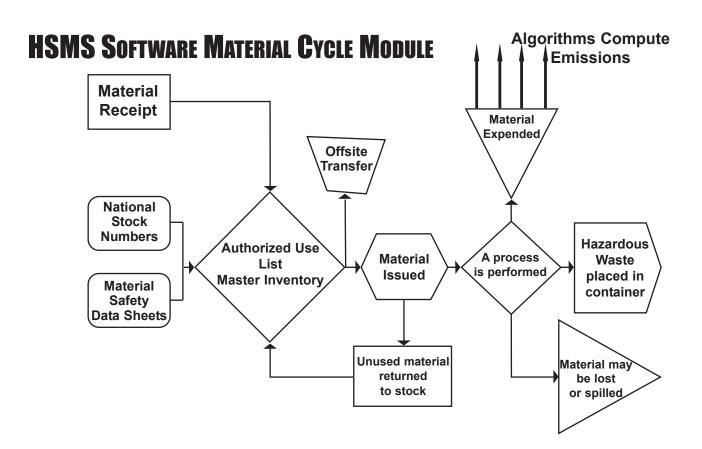
(Not necessary for HSMS)

Modem: 56K (if not on a LAN)

CD: 36x

OS: Windows NT 4.0;

2000, 98

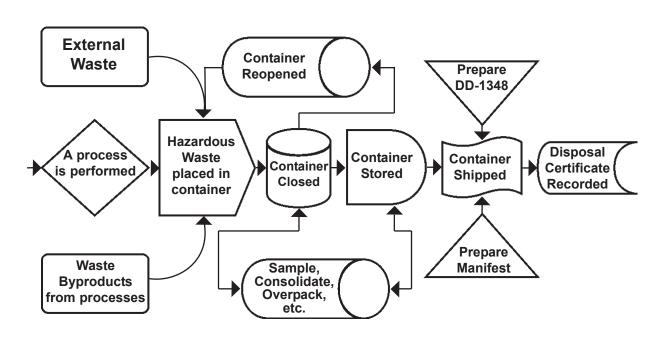


HSMS Software - Material Cycle Module

- NSNs (with product-specific chemical constituent data from MSDSs) and mission requirements are the basis of the AUL.
- Material receipt information builds the Master Inventory.
- The Master Inventory is adjusted in accordance with material issued to on-site users, and material transferred off-site.
 Some material may be returned to stocks unused.
- A process is performed using the material. Some of the material may be lost or spilled during the process.
- The material is expended in the process. The HSMS software will compute emissions based on installation-specific algorithms.
- Hazardous Waste generated as a result of the process is placed in a container.



HSMS Software - Waste Cycle Module



HSMS SOFTWARE - WASTE CYCLE MODULE

- Once filled, the hazardous waste container is closed.
- If the container is not completely full, it may be reopened, and more waste placed in the container.
- The closed container may be sampled, over-packed or consolidated.
- The closed hazardous waste container is then stored in an approved hazardous waste storage facility.
- The hazardous waste manifest and the DD Form 1348 are prepared, and the container is shipped.
- Once the hazardous waste is properly disposed of in a permitted hazardous waste disposal facility, the **Disposal** Certificate is received by the generator, and recorded in HSMS.



HSMS SITES

By the end of FY02, 66 Army installations
will be at Initial Operational Capability (IOC).
Sites are located both in the Continental United States
(CONUS) and Outside the Continental United
States (OCONUS) and represent the full
spectrum of Army installations.





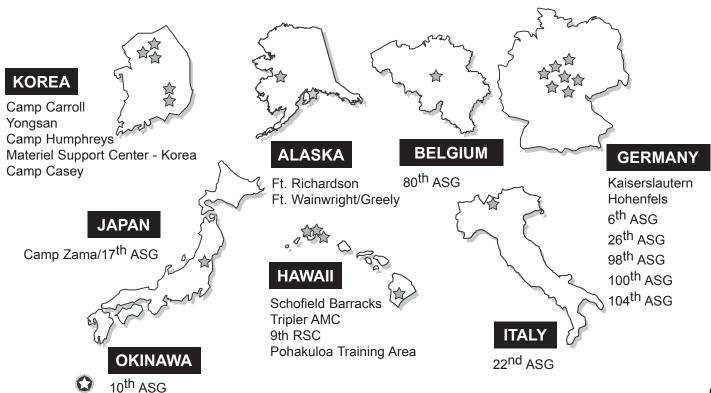
ARMY HSMS SITES

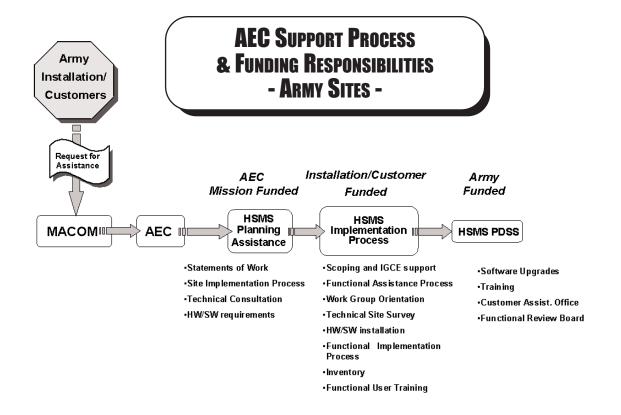
FY96	FY97	FY98	FY99	FY00	FY01	FY02
Pine Bluff Arsenal	Ft. Carson	Ft. Jackson	Yuma PG	Cmp Humphreys	Ft. Stewart	6th ASG
Ft. Campbell	WSMR	Ft. Lee	Ft. Bragg	9th RSC	MSC-Korea	22nd ASG
Ft. Knox	Ft. Benning	Ft. Leonard Wood	Tooele AD	Tripler AMC	PTA	26th ASG
Ft. Bliss	Ft. Meade	Ft. Rucker	WRAMC	Ft. Huachuca	10th ASG	80th ASG
Schofield Barracks	Cmp Stanley	Ft. Sill	Ft. Riley	Ft. Detrick	USAREUR Reuse Ctrs	98th ASG
	Detroit Arsenal	Ft. Lewis	Ft. Drum	Ft. Belvoir	Ft. Myer/McNair	100th ASG
	Dugway PG	Ft. Irwin	Blue Grass AD	Hohenfels	Ft. Hamilton	104th ASG
	Rock Island Arsenal	Ft. Hood	Yongsan			
	Ft. Sam Houston	Ft. Gordon	Connecticut NG			
	Cmp Zama	Ft. A.P. Hill	KIC			
	Cmp Carroll	Missouri NG	Deseret CD			
	Cmp Murray	Arizona NG	Ft. Wainwright/Ft. C	Greely		
	Picatinny Arsenal	West Point	Ft. Richardson			
	Cmp Blanding					
	McAlester AAP					
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CONUS HSMS INSTALLATIONS

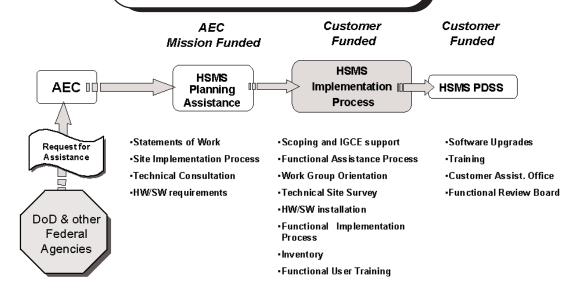


OCONUS HSMS INSTALLATIONS





AEC SUPPORT PROCESS & FUNDING RESPONSIBILITIES - DOD AND OTHER FEDERAL AGENCIES -



HSMS Roles and Responsibilities

- AEC can assist Customer to:
 - Define HSMS objectives.
 - Identify Implementation requirements.
 - Define site-specific implementation process.
 - Develop SOW, IGCE and Contracting documents.
- Customer provides implementation funding (equipment and labor).
- Dept. of Army to provide PDSS services for Army customers at no cost.
 PDSS for other DoD and Government customers will be reimbursable.
- AEC, in partnership with Corps of Engineers, can provide:
 - Project Management/Oversight
 - Technical Project Officer
 - Functional Project Officer
 - QA/QC

STANDARD ARMY IMPLEMENTATION APPROACH

Initial Operational Capability (IOC)

- Selected Activities
- Selected Product Lines
- HSMS Functional
- Limited Reporting
- Defined by Installation



- Entire Installation
- All Hazardous Materials
- Increase Customers
- Installation Responsibility



Define the Initial Operational Capability

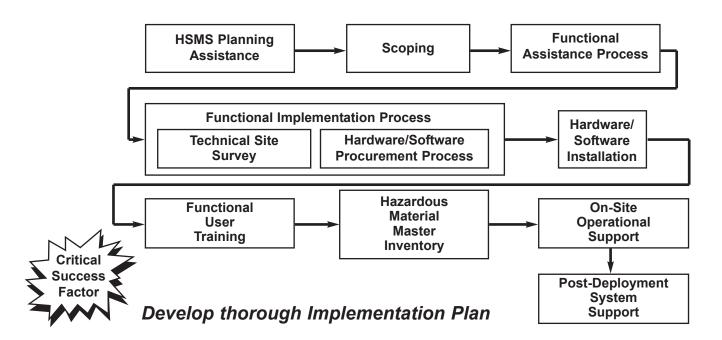
IMPLEMENTATION PROCESS

- Based on a well-established approach that follows a sequence of events and endorses business practice changes necessary for a successful HMMP (Hazardous Material Mangement Plan).
 - Identifies selected activities that use HSMS, to be included in the HSMS program at an installation or facility.





IMPLEMENTATION PROCESS





- 1. Command Support
- Establish a comprehensive HMMP (Hazardous Materials Management Plan)
- 3. Establish an HSMS Implementation Workgroup
- 4. Evaluate Current Hazardous Materials Business Practices
- 5. Identify Business Practices to Implement
- 6. Well-Defined IOC and FOC
- Qualified ADBM
- 8. Develop Thorough Implementation Plan

SUPPORT MECHANISMS (SM)

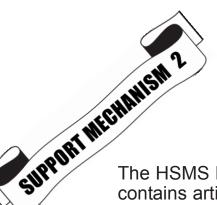
- **SM1.** HSMS Customer Assistance Office (CAO)
- **SM2.** ARMY HSMS Newsletter (Monthly)
- SM3. AEC HSMS Web Page
- **SM4.** User's Group Conference Calls
- SM5. AEC Program Support



CUSTOMER ASSISTANCE OFFICE (CAO)

The CAO provides a variety of support services to the HSMS community. Some of these services include:

- Functional and Technical Support for HSMS Users
- HSMS Training Course Registration
- Resolving problem with HSMS Data Collection Tool (HDCT)
- Support in integrating Business Practices with HSMS Software
- Support in integrating regulatory requirements with HSMS
- Contact the CAO at 1-888-800-7242 or hsms@saic.com



HSMS Newsletter

The HSMS Program provides a monthly e-newsletter that contains articles of interest regarding topics such as:

- Installation Success Stories and Profiles
- Training Program courses and schedules
- Software development status and upgrades
- HSMS Program Primary Points of Contact
- Upcoming Program Calendar of Events
- Information on User questions and answers

The Newsletter is available on the AEC HSMS Web site, on DENIX, or by contacting the HSMS CAO.



AEC HSMS Web Page

The HSMS Program also posts HSMS information concerning

Training, Program Documents and updates on the Web page.

http://aec.army.mil/usaec/p2/hsms00.html

SUPPORT MECHANISM USER'S GROUP CONFERENCE CALLS AND VIDEO CONFERENCES

User's Group Conference Calls and Video Conferences are designed to stimulate information flow among HSMS users. Many HSMS users share similar concerns. One installation may have a solution for a problem or issue encountered by another installation. Conference calls are scheduled on a quarterly basis. The dates and times are announced in the HSMS Newsletter and through e-mail announcements to the Application Database Managers (ADBMs).

PROGRAM DOCUMENTS AVAILABLE

- Site Implementation Plan (SIP)
- System Technical Architecture Guide (STAG)
- Business Practices Guide
- Training Plan



Go to the AEC HSMS Web page: http://aec.army.mil or contact the HSMS Customer Assistance Office for a Copy

HSMS Training

The HSMS Program currently offers three types of training for the HSMS Users community:

- Application Database Manager (ADBM) Training, and
- Functional User Training Sustainment (FUT-S)
- Crystal Reports (CR) Training

For detailed information, schedules and locations on both courses, contact the CAO at 1-888-800-7242 or see the HSMS Web page for training at http://aec.army.mil.

Note: In FY03 ALMC (Army Logistics Management College) will initiate formal HSMS Training as part of its standard curriculum.

POST-DEPLOYMENT SYSTEM SUPPORT (PDSS)

PDSS for HSMS sites (FY02 and beyond)

- Customer Assistance Office (CAO)
- Configuration Management
- Software Testing and Upgrades
- Sustainment Training
- Newsletter/User VTCs



SUCCESS STORIES

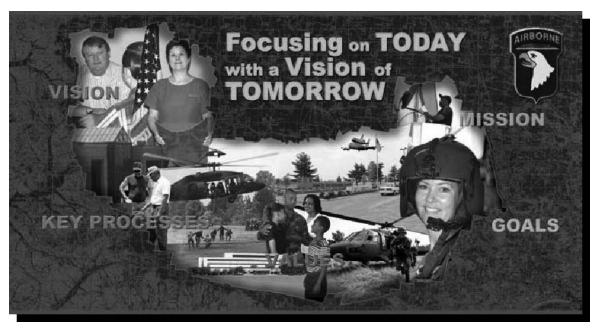
Ft. Campbell

Please Visit Our Web Site At:

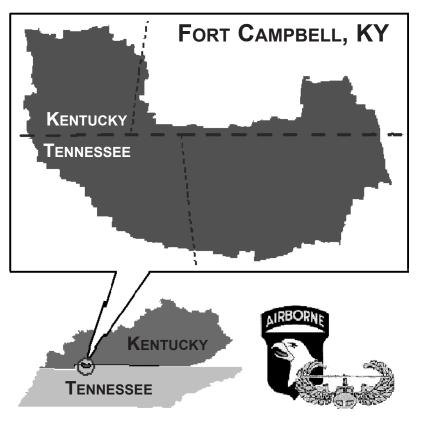
http://aec.army.mil/usaec/p2/hsms00/.html



FORT CAMPBELL, KY



HOME OF THE 101ST AIRBORNE DIVIVISION (AIR ASSAULT)



164 Square Miles (105,068 Acres)

Third Largest Military Population in the Army

Home to the only Air Assault Division in the World

- 435 Aircraft
- 1000's of Vehicles and Support Equip.

BEFORE.....

PRIOR TO 1996, FORT CAMPBELL RECEIVED NOVS FOR IMPROPER HAZARDOUS MATERIAL MANAGEMENT.









"\$27,500 Per-Container, Per-Day, Fine Potential"



HAZMAT CONTINGENCY FACILITY SUPPORT



















HAZMAT CONTINGENCY FACILITY



- 17000 Sq. Ft. Facility
- Supporting 122 Deployable Customers
- 141 Contingency Packages Managed
- 24 Hour Support Available

HAZMAT CONTINGENCY SUPPORT

- Coordinated with Commanders
- Materials Rotated and Managed
- UN Specification Packaging
- 30 DOS Packages Maintained Available in Select, 7 Day, or 15 Day Increments
- Division's CLIII(P) and CLIX Battery Contingency Stocks Managed
- 959 Packages Prepared and Issued Since 1997

JRTC, NTC, SEDRE, EDRE, FTX's, REAL WORLD MISSIONS

HAZMAT CONTINGENCY SUPPORT OPERATION ENDURING FREEDOM

- Issued 55, 30 DOS Packages for Divisional Units
- Issued 12 packages to SOF Units (30-90 DOS)
- Performed 106 packaging assists to Divisional and SOF Units for Non-HMCC Items such as Fire Extinguishers.
- Packaged, Prepared SDDG's and issued 2-CLIX Battery and 1-CLIII(P) Contingency Packages
- Issued 12,000 lbs. of Lime, 60 55-Gallon Drums of Dust suppressing Chemical and Spray Equipment
- 76 Additional Contingency Packages Issued to Divisional Units for Training Exercises

PPOC CUSTOMER SUPPORTGARRISON OPERATIONS

- Product Obtained
- Serviceability Ensured
- Material Delivered
- Removal of Empty
 Containers/Contaminated
 Materials
- Monthly Assessments
- Providing Service to 162 units/activities
- Management of 351
 Hazmat Storage Areas



WATER PURIFICATION CHEMICALS 3K ROWPU 10 DAY KIT

- Assembled at PPOC
- PPOC 5 Day Kit Vs. 5 Day Kit Via Supply System
- PPOC Kit Includes Calcium Hypocholorite and Eyewash Additive (Not Included Via Supply System)
- NSN. 6850-01-423-1699 Cost + \$1,896.08
- PPOC Kit Cost + \$1105.00
- \$791.08 Savings Per Kit Issued

8 Kits Assembled and Issued to 101st Corp Support Group for Operation Enduring Freedom



On-site Antifreeze Recycling



Collection

Assessment

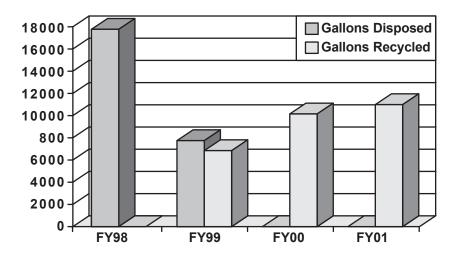
☐ Storage☐ Recycling

☐ Control

- ☐ Distribution
- Serviceability Ensured by the Army Petroleum Center
- Available in 1, 5, and 55 gal. Containers
- Distributed through the PPOC
- Process Eliminated Form-R Reporting
- 26,102 Gallons recycled since FY99
- FY01 Cost Avoidance = \$63,000



On-site Antifreeze Recycling



"Used Antifreeze Disposal Eliminated by Recycling"

SPILL RESPONSE MATERIALS

- Research and Development
- Materials Procured
- 15, 30, and 55 Gallon Kits Available
- Replenishment Stocks Maintained
- Supporting Tactical Operations
- Readiness/Compliance Maintained
- 400+ Kits Built and Issued in FY 01
- 50% Reduction in Spill Material Cost





FUTURE PPOC PROGRAMS

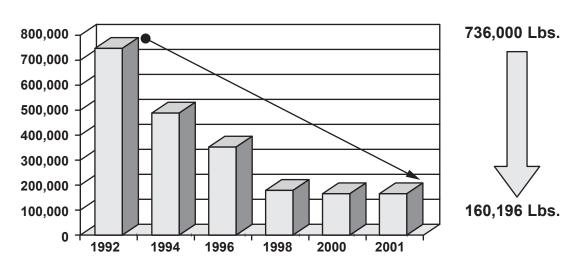
Battery Management:

- **Provide Management Services Same as HAZMAT**
- Implement State of Charge Testing on BA-5590s
 - Modeled After Fort Polk Program
 - Free Issue of Batteries with >70% Charge

Fire Extinguisher Servicing:

- **Currently Performed by FTCKY Fire Department**
- **GC Requested Program Transferred to PPOC**
- Fire Extinguisher Recharging, Repair, and Issue
- **Hydrostatic Testing**

HAZARDOUS WASTE MANAGEMENT DISPOSAL REDUCTION



"78% Reduction Gained Through Management"

PPOC COST/BENEFITS

FISCAL YEAR 2001

Operating Costs (Management and Disposal)

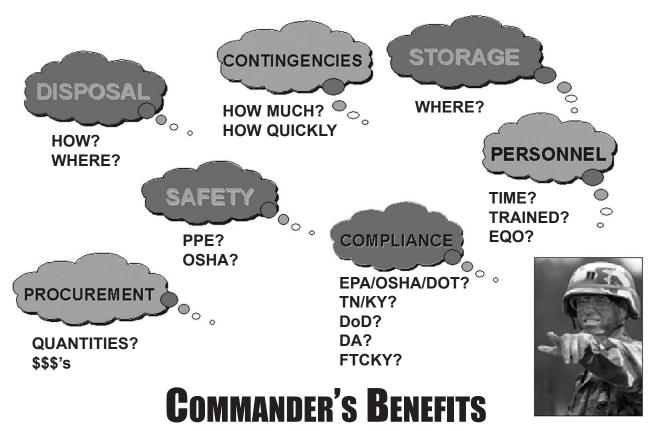
\$2.4M

Benefits (Cost Avoidance)

\$3.4M

Net Results

+ \$1.0M



FOR ADDITIONAL INFORMATION **POC INFO:**

Mr. Mike Davis Chief, Pollution Prevention Branch **Public Works Business Center Environmental Division**

DSN: 635-9767 PHONE: (270) 798-9767 FAX: (270) 798-3561 DSN: 635-3561 EMAIL: davism@campbell.army.mil





U.S. Army Environmental Center

ATTN: SFIM-AEC-ETP
5179 Hoadley Road
Aberdeen Proving Ground, MD 21010-5401
http://aec.army.mil/usaec/p2/hsms00.html

1-888-800-7242 hsms@saic.com